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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/539,903

Applicant(s)

SCHOELLER ET AL.

Examiner

NATALIE K. WALFORD

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2005 and 04 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The Response, filed on June 4, 2008, has been entered and acknowledged by the Examiner. Claims 1-25 are pending in the instant application.

Drawings

The drawings were received on June 4, 2008. These drawings are entered and acknowledged by the Examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boonekamp et al. (WO 01/24224) in view of Dierks et al. (US 5,608,227).

Regarding claim 1, Boonekamp discloses a high-pressure discharge lamp (item 14) in figure 1B comprising a burner (item 12) having a discharge space, two electrodes (page 7, lines 27-31) extending in the discharge space, a gas filling in the discharge space that contains at least an inert gas and a metal halide mixture (page 7, lines 27-31), and an outer bulb (item 11) having two ends, the burner being attached, at least at one end, to the outer bulb, wherein the outer bulb comprises at least one light-absorbing means (item 16) and at least one interference filter (item

15), but does not expressly disclose that an interference filter is arranged in at least a part of the burner, as claimed by Applicant. Dierks is cited to show a high-pressure discharge lamp in figure 2 with a burner (item 2) that has an interference filter (item 1a) that is arranged in a part of the burner. Dierks teaches that the filter absorbs certain wavelengths and allows other to transmit (column 7, lines 23-36).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Boonekamp's invention to include an interference filter is arranged in at least a part of the burner as suggested by Dierks for absorbing certain wavelengths.

Regarding claim 2, the combined reference of Boonekamp and Dierks disclose the high-pressure discharge lamp as claimed in claim 1, wherein the interference filter is arranged on an outer surface of the burner (Dierks; item 1a).

Regarding claim 3, the combined reference of Boonekamp and Dierks disclose the high-pressure discharge lamp as claimed in claim 1, the light-absorbing means is provided on an inner surface of the outer bulb (Boonekamp; FIG. 1B, end of item 16 dotted line), and between an outer surface of the outer bulb and the at least one interference filter (Boonekamp; FIG. 1B).

Regarding claim 4, the combined reference of Boonekamp and Dierks disclose the high-pressure discharge lamp as claimed in claim 1, wherein at least at surfaces of areas that are used to attach the burner to the outer bulb, no light-absorbing means and/or interference filters are arranged (Boonekamp; FIG. 1B, area at top and bottom of item 13).

Regarding claim 5 the combined reference of Boonekamp and Dierks disclose a high-pressure discharge lamp as claimed in claim 1, but does not expressly disclose that in that the

light transmittance of the interference filter and of the at least one interference filter, with regard to the wavelength range of 600 to 800 nm, is >90% for both, as claimed by Applicant.

Boonekamp does disclose that though that the lamp transmits in the wavelength range between 570 and 620 nm (page 6, lines 9-16). Therefore, it would be understood to one with ordinary skill in the art that the lamp would transmit light greater than 90%, since Boonekamp's lamp transmits in the same wavelength range as Applicant's.

Regarding claim 6, the combined reference of Boonekamp and Dierks disclose a high-pressure discharge lamp as claimed in claim 1, but does not expressly disclose that in that the light transmittance of the light-absorbing means with regard to the wavelength range of 600 to 800 nm ranges between 70 and substantially 100%, as claimed by Applicant. Boonekamp does disclose that though that the lamp transmits in the wavelength range between 570 and 620 nm (page 6, lines 9-16). Therefore, it would be understood to one with ordinary skill in the art that the lamp would transmit light between 70 and 100%, since Boonekamp's lamp transmits in the same wavelength range as Applicant's.

Regarding claim 7, the combined reference of Boonekamp and Dierks disclose a high-pressure discharge lamp as claimed in claim 1, but does not expressly disclose that in that a thickness of at least one of the interference filter and the at least one interference filter ranges between 800 and 2800 nm, as claimed by Applicant. Dierks does disclose though that the layer can be between 30 and 50 nm (column 4, line 43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a thickness of at least one of the interference filter and the at least one interference filter ranges between 800 and 2800 nm,

since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claim 8, the combined reference of Boonekamp and Dierks disclose the high-pressure discharge lamp as claimed in claim 1, wherein at least one of the interference filter and at least one interference filter is composed of a plurality of layers, including a first layer having a higher refractive index that alternates with a second layer having a lower refractive index, the second layer having the lower refractive index including SiO₂ and the first layer being composed of a material having a refractive index higher than SiO₂ (Boonekamp; page 7, lines 5-15).

Regarding claim 9, the combined reference of Boonekamp and Dierks disclose the high-pressure discharge lamp as claimed in claim 8, wherein the first layer is composed of a material selected from a group consisting of titanium oxide, tantalum oxide, niobium oxide, hafnium oxide, silicon nitride, very preferably zirconium oxide ZrO₂, or a mixture of said materials (Boonekamp; page 10, lines 1-7).

Regarding claim 10, the combined reference of Boonekamp and Dierks disclose the high-pressure discharge lamp as claimed in claim 1, wherein a thickness of the light-absorbing means ranges between 5 nm and 10,000 nm (Boonekamp; page 9, lines 18-25).

Regarding claim 11, the combined reference of Boonekamp and Dierks disclose a high-pressure discharge lamp as claimed in claim 1, characterized in that the light-absorbing means contains inorganic pigments, which absorb part of the visible light (Boonekamp; page 6, lines 9-16 and 26-33), but does not expressly disclose that the average diameter of the inorganic pigments is below 100 nm, as claimed by Applicant. Boonekamp does disclose that that light absorbing means layer is between 50 and 1000 nm thick. It would have been obvious to one

having ordinary skill in the art at the time the invention was made to have the average diameter of the inorganic pigments below 100 nm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claim 12, the combined reference of Boonekamp and Dierks disclose a high-pressure discharge lamp as claimed in claim 11, characterized in that the inorganic pigment is composed of a material or an oxide selected from a group consisting of iron oxide, zinc-iron-oxide ($\text{Zn-Fe}_2\text{O}_4$ or $\text{ZnO-Zn-Fe}_2\text{O}_4$), phosphor-doped iron oxide, zinc-iron-chromium, bismuth-vanadate, in particular pucherite bismuth-vanadate, vanadium oxide, zirconium-praseodymium-silicate, titanium-antimony-chromium, nickel-antimony-titanium and silver, or the mixtures thereof (Boonekamp; page 6, lines 26-33).

Regarding claim 13, the combined reference of Boonekamp and Dierks disclose a light system for motorcars comprising at least the high-pressure discharge lamp as claimed in claim 1 (Boonekamp; page 9, lines 18-25).

Regarding claim 14, the combined reference of Boonekamp and Dierks disclose the high-pressure discharge lamp as claimed in claim 11, wherein the inorganic pigment includes at least one of pucherite bismuth-vanadate, vanadium oxide, zirconium-praseodymium-silicate, titanium-antimony-chromium, nickel-antimony-titanium, silver, and mixtures thereof (Boonekamp; page 6, lines 26-33).

Regarding claim 15, Boonekamp discloses a discharge lamp (item 14) in figure 1B comprising: a burner (item 12) having a discharge space; electrodes (page 7, lines 27-31) extending in the discharge space; a gas (page 7, lines 27-31) filling in the discharge space; an

outer bulb (item 11) surrounding the burner; a light-absorbing coating (item 16) located on the outer bulb; a first interference filter (item 15) located on the light-absorbing coating, but does not expressly disclose a second interference filter located in at least a part of the burner, as claimed by Applicant. Dierks is cited to show a high-pressure discharge lamp in figure 2 with a burner (item 2) that has an interference filter (item 1a) that is arranged in a part of the burner. Dierks teaches that the filter absorbs certain wavelengths and allows other to transmit (column 7, lines 23-36).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Boonekamp's invention to include an interference filter is arranged in at least a part of the burner as suggested by Dierks for absorbing certain wavelengths.

Regarding claim 16, the combined reference of Boonekamp and Dierks disclose the discharge lamp of claim 15, further comprising a further light-absorbing coating located on an inside surface of the outer bulb (Boonekamp; FIG. 1B, end of item 16 dotted line), wherein the light-absorbing coating is located on an outside surface of the outer bulb (Boonekamp; FIG. 1B).

Regarding claim 17, the combined reference of Boonekamp and Dierks disclose the discharge lamp of claim 15, wherein surfaces that are used to attach the burner to the outer bulb are devoid of at least one of the light-absorbing coating, the first interference filter, and the second interference filter (Boonekamp; see FIG. 1B).

Regarding claim 18, the combined reference of Boonekamp and Dierks disclose the discharge lamp of claim 15, but does not expressly disclose that light transmittance of at least one of the first interference filter and the second interference filter in a wavelength range of 600

to 800 nm, is greater than 90%, as claimed by Applicant. Boonekamp does disclose that though that the lamp transmits in the wavelength range between 570 and 620 nm (page 6, lines 9-16). Therefore, it would be understood to one with ordinary skill in the art that the lamp would transmit light greater than 90%, since Boonekamp's lamp transmits in the same wavelength range as Applicant's.

Regarding claim 19, the combined reference of Boonekamp and Dierks disclose the high-pressure discharge lamp of claim 15, but does not expressly disclose light transmittance of the light-absorbing coating with regard to a wavelength range of 600 to 800 nm ranges between 70 and substantially 100%, as claimed by Applicant. Boonekamp does disclose that though that the lamp transmits in the wavelength range between 570 and 620 nm (page 6, lines 9-16). Therefore, it would be understood to one with ordinary skill in the art that the lamp would transmit light between 70 and 100%, since Boonekamp's lamp transmits in the same wavelength range as Applicant's.

Regarding claim 20, the combined reference of Boonekamp and Dierks disclose the discharge lamp of claim 15, but does not expressly disclose a thickness of at least one of the first interference filter and the second interference filter ranges between 800 and 2800 nm, as claimed by Applicant. Dierks does disclose though that the layer can be between 30 and 50 nm (column 4, line 43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a thickness of at least one of the interference filter and the at least one interference filter ranges between 800 and 2800 nm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claim 21, the combined reference of Boonekamp and Dierks disclose the discharge lamp of claim 15, wherein at least one of the first interference filter and the second interference filter includes a plurality of alternating first layer and second layer, wherein a first refractive index of the first layer is higher than a second refractive index of the second layer (Boonekamp; page 7, lines 5-15).

Regarding claim 22, the combined reference of Boonekamp and Dierks disclose the discharge lamp of claim 21, wherein the second layer includes SiO_2 and the first layer includes at least one of titanium oxide, tantalum oxide, niobium oxide, hafnium oxide, silicon nitride, zirconium oxide ZrO_2 , and a mixture thereof (Boonekamp; page 10, lines 1-7).

Regarding claim 23, the combined reference of Boonekamp and Dierks disclose the discharge lamp of claim 15, wherein a thickness of the light-absorbing coating ranges between 5 nm and 10,000 nm (Boonekamp; page 9, lines 18-25).

Regarding claim 24, the combined reference of Boonekamp and Dierks the discharge lamp of claim 15, but does not expressly disclose that the light-absorbing coating includes inorganic pigments which absorb a portion of visible light and have an average diameter below 100 nm, as claimed by Applicant. Boonekamp does disclose that that light-absorbing means layer is between 50 and 1000 nm thick. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the average diameter of the inorganic pigments below 100 nm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boonekamp et al. (WO 01/24224) in view of Fischer et al. (US 5,109,181).

Regarding claim 25, Boonekamp discloses a discharge lamp (item 14) in figure 1B comprising: a burner (item 12) having a discharge space; electrodes (page 7, lines 27-31) extending in the discharge space; a gas filling in the discharge space (page 7, lines 27-31); an outer bulb (item 11) surrounding the burner; a first light-absorbing coating (item 16) located on an outer surface of the outer bulb; an interference filter (item 15) located on the first light-absorbing coating, but does not expressly disclose that a second light-absorbing coating located on an inner surface of the outer bulb, and wherein the first light-absorbing coating and the second light-absorbing coating are substantially identical, as claimed by Applicant. Fischer is cited to show a discharge lamp in figure 2 with an outer bulb (item 15) that has a light-absorbing coating (item 16) on the inner surface that is made mainly from zirconium oxide. Fischer teaches that the light-absorbing coating blocks certain radiation (column 3, lines 39-40). Boonekamp's light absorbing coating is also made mainly from zirconium oxide (page 7, lines 22-24). Hence, they are substantially identical coatings.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Boonekamp's invention to include an interference filter is arranged in at least a part of the burner as suggested by Fischer blocking certain radiation.

Response to Arguments

Applicant's arguments filed June 4, 2008 have been fully considered but they are not persuasive. The Examiner respectfully disagrees with Applicant's arguments. The Examiner

first points to Dierks, which clearly shows an interference filter (item 1a) arranged in at least a part of the burner (item 2). The Examiner is not concerned with absorbing layer (item 2b) of Dierks, but only with the interference filter of figure 1. Now looking at Fischer, the Examiner notes that even though the layer is called an interference filter, it still acts as a light absorbing layer (column 3, lines 40-41). Hence, Applicant's limitations are met as set forth.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkW
/Natalie K Walford/
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